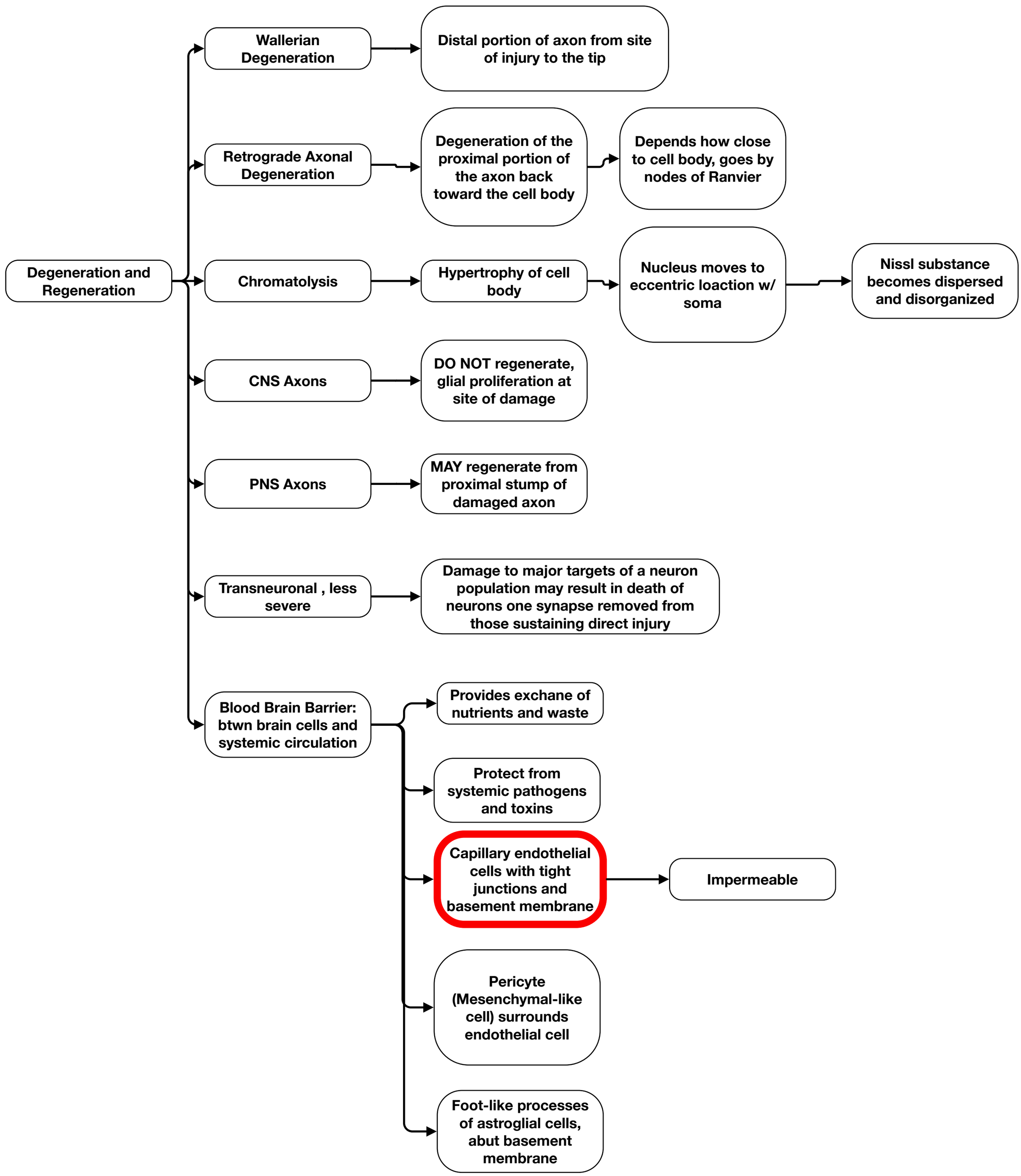
Degeneration and Regeneration
Wallerian Degeneration
Distal portion of axon from site of injury to the tip
Retrograde Axonal Degeneration
Degeneration of the proximal portion of the axon back toward the cell body
Depends how close to cell body, goes by nodes of Ranvier
Chromatolysis
Hypertrophy of cell body
Nucleus moves to eccentric loaction w/ soma
Nissl substance becomes dispersed and disorganized
CNS Axons
DO NOT regenerate, glial proliferation at site of damage
PNS Axons
MAY regenerate from proximal stump of damaged axon
Transneuronal , less severe
Damage to major targets of a neuron population may result in death of neurons one synapse removed from those sustaining direct injury
Blood Brain Barrier: btwn brain cells and systemic circulation
Provides exchane of nutrients and waste
Protect from systemic pathogens and toxins
Capillary endothelial cells with tight junctions and basement membrane
Impermeable
Pericyte (Mesenchymal-like cell) surrounds endothelial cell
Foot-like processes of astroglial cells, abut basement membrane